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## Claims:

1. Mixing device for mixing air and water in a water purifier,

wherein the mixing device (1) comprises a water inlet pipe (2) and an air inlet pipe (3),

5 wherein the air inlet pipe (3) extends coaxially within the water inlet pipe (2) and defines therewith an annular gap (4) for providing an annular water jet,

wherein, downstream of the annular gap (4) there is provided a mixing member (6) for mixing water and air, and

10 wherein the mixing member (6) includes a water flow disturbing device (7) which is provided to be hit by the annular water jet,

c h a r a c t e r i z e d i n

15 that at least those parts (2a) of the water inlet pipe (2) and/or those parts (3a) of the air inlet pipe (3) which define the annular gap (4), consist of plastic material, and

20 that the water flow disturbing device (7) includes at least one helical means (8) which extends along the inner side of the mixing member (6) around through-flow portions (6a) thereof within said helical means (8) such that helical movements are imparted to the annular jet of water when it flows downwards through said through-flow portions (6a).

25 2. Mixing device according to claim 1, c h a r a c - t e r i z e d i n that the plastic material which said parts (2a and/or 3a) of the water inlet pipe (2) and/or the air inlet pipe (3) consist of, is olefine polymer.

30 3. Mixing device according to claim 2, c h a r a c - t e r i z e d i n that said olefine polymer is polyethylene.

35 4. Mixing device according to any preceding claim, c h a r a c t e r i z e d i n that the helical means (8) has the shape of a wire.

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5. Mixing device according to claim 4, c h a r a c -  
t e r i z e d i n that the helical means (8) is a metal  
wire.

6. Mixing device according to any preceding claim,  
5 c h a r a c t e r i z e d i n that the helical means  
(8) is located on the inner side of a tube (9) forming  
part of the mixing member (6).

7. Mixing device according to claim 6, c h a r a c -  
t e r i z e d i n that the helical means (8) extends  
10 along the entire or at least the major part of the mixing  
member (6).

8. Mixing device according to any preceding claim,  
c h a r a c t e r i z e d i n  
that the helical means (8) consists of a helical  
15 spring having a diameter which is greater than the inner  
diameter of the mixing member (6),

that the spring can be screwed together for reducing  
its diameter such that it can be inserted into the mixing  
member (6), and

20 that the helical spring, by being released after  
insertion into the mixing member (6), can be brought to  
expand until it with pressure engages the inner side of  
the mixing member (6).

9. Mixing device according to claim 8, c h a r a c -  
25 t e r i z e d i n that the helical spring can be remo-  
ved or withdrawn from the mixing member (6) by screwing  
together said spring for reducing its diameter.

10. Mixing device according to any preceding claim,  
c h a r a c t e r i z e d i n that the through-flow  
30 portion (6a) is provided with no parts or members within  
the helical means (8).

11. Mixing device according to any preceding claim,  
c h a r a c t e r i z e d i n that the mixing member  
(6) includes a tube (9) which interiorly is of uniform  
35 thickness.

12. Mixing device according to claim 11, c h a -  
r a c t e r i z e d i n that the tube (9) consists

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of metal material, preferably stainless metal material.

13. Mixing device according to any preceding claim,  
c h a r a c t e r i z e d i n that plastic parts (2a)  
of the water inlet pipe (2) and metal parts of the mi-  
5 xing member (6) are interconnected by means of a pipe  
coupling (10) of metal material.

14. Mixing device according to any preceding claim,  
c h a r a c t e r i z e d i n that a flow control  
means (5) is provided for controlling the flow through  
10 the annular gap (4).